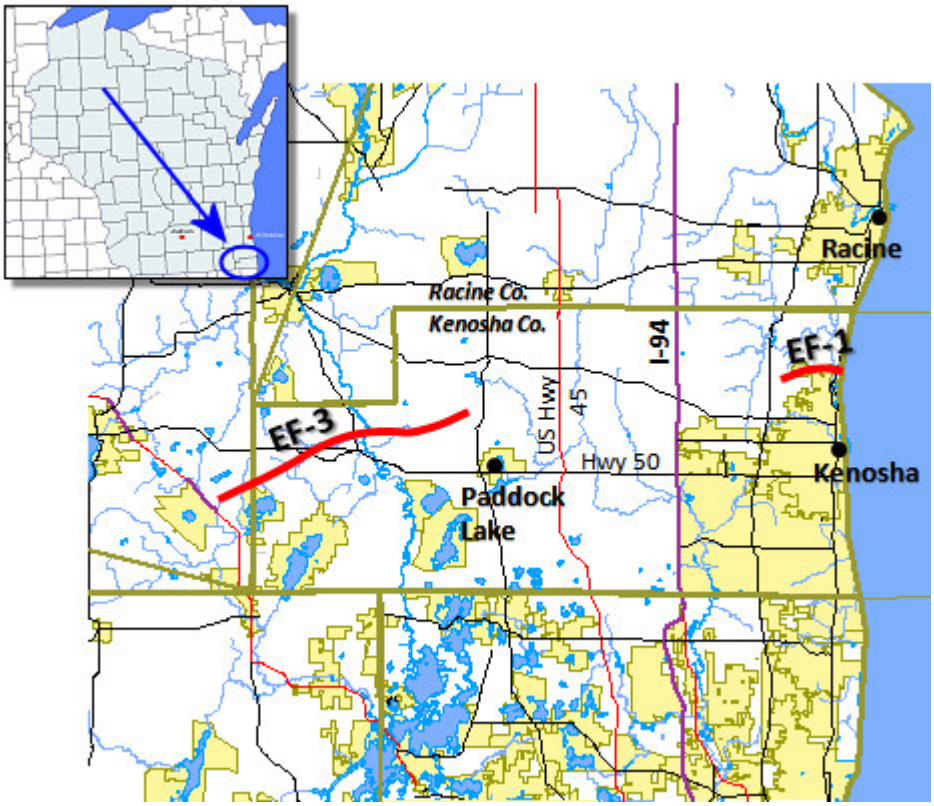
TOP WEATHER EVENTS OF 2008 (A YEAR OF EXTREMES!)

(IN ORDER OF OCCURRENCE)

1.) January 7th Tornadoes & Warm Temperatures!

We're not kidding here - two tornadoes tore through Walworth and Kenosha Counties destroying homes and other buildings. One was rated EF3 with winds about 150-155 mph, and other one was an EF1. This is only the second time in recorded history that there was a tornado day in January in Wisconsin! Several other areas, including Grant County, Racine County, and Dane County encountered penny-sized hail and funnel clouds. Abnormally warm temperatures affected most of the state in the early part of January, the max temperature reaching as high as 63º F in Milwaukee and 50º F in Madison! This set a new daily record and an all-time January record max temperature for that location. The warm air also brought in some severe weather.



2.) January 29th, 30th, 31st Extreme Cold/Wind Chills & Winter Storm.

Bitter cold temperatures surged through Wisconsin during a Winter Storm at the close of January. Much of northeast and central Wisconsin received near blizzard conditions as a low pressure rapidly intensified, moving from northern Illinois into northern Michigan. Wind gusts exceeding 40 mph combined with 2 to 6 inches of snow resulted in considerable blowing and drifting snow. Temperatures plummeted in the early hours of January 30th, producing wind chills to as low as -50º F in some areas.

The temperature drop at the La Crosse Airport was 53 deg F (43 deg F down to -10 deg F) for January 29th, which tied a record for the all-time largest change in a calendar day. Lowest wind chills on that day were 30 below to 40 below thanks to northwest winds of 20 to 30 mph.

In southeast Wisconsin, the storm started off as rain and thunderstorms, quickly changing to sleet and freezing rain, and then snow. Visibilities were periodically reduced to ¼ of a mile in some open areas. Afternoon temperatures on the 29th began in the mid 30s, rapidly dropped through the 20s throughout the afternoon, and plunged into the single digits by nightfall. By the morning of the 30th, temperatures had sunk to -11° F in some areas. Throughout the 3-day period, snow amounts collected to 12.0" in Racine, 10" to 11" in Kenosha, 9.5" in Pleasant Prairie, 8" in Caledonia, Union Grove, and Paddock Lake, and 7" around the rest of the southeast portion of Walworth County.

3.) February 5th - 6th Winter Storm/Blizzard & Cold Temperatures.

A massive winter storm with near-blizzard conditions pounded southern Wisconsin with snow accumulations ranging from 10" to 21". Orfordville and 9NNW Beloit both picked up 21 inches of snow. Occasional northerly wind gusts reaching 35 mph resulting in blowing and drifting snow causing poor visibilities. An isolated wind gust was measured in Rock County that reached to 60 mph and some drifts of 4' to 5' were reported!

In Dane County, snowfall and drifting were so severe that at least 1548 vehicles were trapped on Interstate 39/90 between Madison and Janesville. Eighteen to 21" of snow fell in the area of the backup which lasted for up to 10 to 20 hours. Other snow amounts in Southwestern Wisconsin included 18" at Sinsinawa, 14" at Hazel Green, and 13" at Cuba City. Many other roads and interstates were also backed up and airports terminated all airport traffic due to near blizzard conditions.

Because of the February 5th and 6th winter storm, many locations in south-central and southeast Wisconsin broke their all-time winter snowfall records.

4.) February 9th-10th Bitter Wind Chill Temperatures Northwest Wisconsin.

Strong winds and bitterly cold air combined to generate bitter, wind chill temperatures of -40 to -45 over northwestern Wisconsin. West to northwest winds gusted to 45 mph the evening of the 9th as temperatures dropped below zero. By the morning of February 10th, the winds had weakened, but actual air temperatures had dropped to -15 to -28 F across northwestern Wisconsin. In Southwestern and West-central Wisconsin, temperatures dropped about 40 deg with winds of 30 to 40 mph; creating lowest wind chills of 35 below to 45 below.

5.) February 14th Winter Storm Southwest Wisconsin.

A winter storm over Southwest and West-central Wisconsin dumped 12.5" at Ontario, 12.3" at DeSoto, and 11.2" in Viroqua.

6.) February 17th Winter Storm/Blizzard/Ice Storm.

Yet another winter storm pummeled parts of northeast, southeast, southwest, and central Wisconsin on February 17th. Low pressure moved from Oklahoma and intensified as it tracked across the southeast portion of Wisconsin. The storm started out as freezing rain resulting in ice accumulations from 1/10 to 1/8 of an inch. The freezing rain and sleet then turned to snow which fell at a rate of about 1" per hour thereafter. Snowfall totals ranged from 6" to 12". Because of the underlying ice, hundreds of vehicle accidents were reported by the news media. True blizzard conditions occurred in parts of Central Wisconsin with snowfall amounts of 15.5" at Richland Center and 12.5" at Hillsboro.

7.) April 10th, 11th, 12th, Winter Storm/Blizzard.

A low pressure system moved rapidly from the southern Plains into the western Great Lakes beginning on April 10th. This resulted in late season winter storm producing a lingering period of heavy, wet snow throughout west, northeast, and northwest Wisconsin which was at times, accompanied with thunder and lightning. Isolated areas experienced blizzard conditions. Precipitation amounts ranged from 6" to 14" of snow and wind gusts up to 40 mph were frequent. Roughly 500 trees were blown down and waves were 15' or more on Lake Superior.

8.) All-time winter snowfall records for Southern Wisconsin.

Fourteen winter storms affected southern Wisconsin during the 2007-08 winter, out of 19 that affected at least some part of the state. Normally, only about 12 winter storms affect Wisconsin each winter. The 2007-08 parade started on December 1, 2007, and ended on March 21, 2008. There were at least another dozen "Winter Weather Advisory" systems that also added to the snow totals. Many locations in the southern third of the state set new, all-time, winter snowfall records, ranging from 65 to 122 inches! In some cases, winter totals were over twice the normal winter amounts! West Allis (Milwaukee Co.) had the highest total in Southern Wisconsin with 122.1 inches. Additionally, four of the winter storms had periods of moderate to severe icing due to freezing rain.

9.) April 25th Tornadoes & Strong Storms.

On April 25th, northeast, southeast, and southwest sections of Wisconsin experienced a severe weather system, the first severe weather of the season. Many areas encountered hail, heavy winds, and intense lightning, and two tornadoes were reported in Columbia County during the storm. One tornado received an EF1 rating and had estimated wind speeds of 100 mph. In Waukesha County powerful winds uprooted trees and broke tree branches causing about 11,000 people to be without power for periods of time. Areas in southwest Wisconsin reported flooding due to excessive rainfall. Some of the locations hardest hit by the heavy rain included Lancaster and Platteville.

10.) June 6th - 8th and 12th - 13th Heavy Rains & Severe Flooding Southern Wisconsin.

The month of June brought torrential rainfall and extreme flooding to southern Wisconsin, extending up toward the Green Bay area. The first two weeks in June 2008 featured many days with rain, and a few days with an exceptional amount of rain. Between June 1st and June 14th, Madison did not record precipitation *on only three days*. In the same time span, Milwaukee did not record precipitation on only four days.

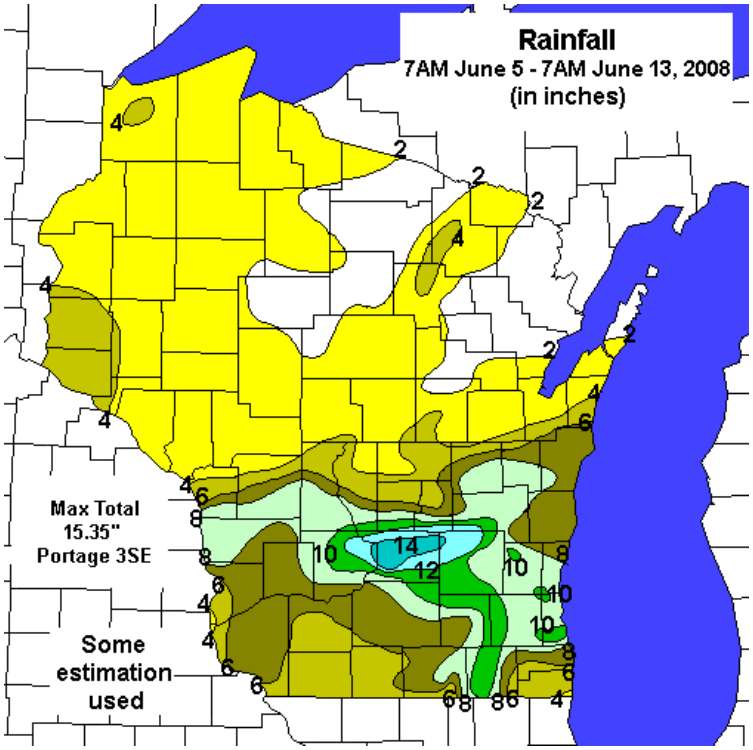
However, it was not the extended period of rainy weather that caused flooding problems. Those problems were primarily due to two heavy rainfall events - one on June 7th to June 8th, and one on June 12th. At many locations, over 70% of the rain fell on those three days. The heavy rainfall produced flash flooding problems across Southern Wisconsin on several days, with severe river flooding throughout the entire period.

Copious amounts of rain led to flash flooding and eventual major river flooding in Southwest Wisconsin where hilly terrain concentrated the rain runoff. All-time record crests were seen at many locations in that part of the state, including the Kickapoo River. Many villages had evacuations with major sand bagging efforts. Estimated damage amounts were $75 to $85 million in that part of the state alone. On June 12th, the Potosi area (Grant Co.) had a major flash flood that impacted roughly 600 homes in the region.

Rainfall totals across South-central and Southeast Wisconsin during the first couple weeks in June ranged between 6 and 12 inches, with an isolated corridor of 12-16 inches from Northern Sauk County into Northwest Dodge County. Refer to a rain map below that shows the amount of rain for the period of was produced by the Midwest Regional Climate Center. Officially, Milwaukee observed 12.27" of rain for the month of June. This *easily* breaks the record for highest June rainfall total. The previous record was 10.13", set in 1917. The 12.27" of rainfall observed at Milwaukee also sets a new record for maximum monthly rainfall for any month. Officially, Madison observed 10.93" of rain for the month of June. This *easily* breaks the record for highest June rainfall total. The previous record was 9.95", set in 1978. There were unofficial reports from Columbia County of over 17 inches of rain for all of June, 2008!

Many rivers remained above flood stage through the remainder of June into July, and 38 river gage sites exceeded the previous all-time crest, in some cases by 5 to 11 feet! Cities and villages along some rivers sustained considerable damage to buildings and roads. Additionally, there were widespread crop losses in low-lying areas. Parts of the Interstate system were closed in the counties of Columbia, Jefferson, and Waukesha. Many other roads in southern Wisconsin were closed for varying amounts of time. Some lows in farm fields still had standing water into early November.

Estimated damage amounts over all of Southern Wisconsin were $241.3M for residential homes, $62.6M to businesses, $323.5M to crops, and $140.5M to public property such as roads, bridges, and waste water treatment plants. The estimated grand total of $765.9M makes the June, 2008 flooding the most costly natural disaster in Wisconsin's recorded history – even exceeding the damage attributed to the 1993 floods!

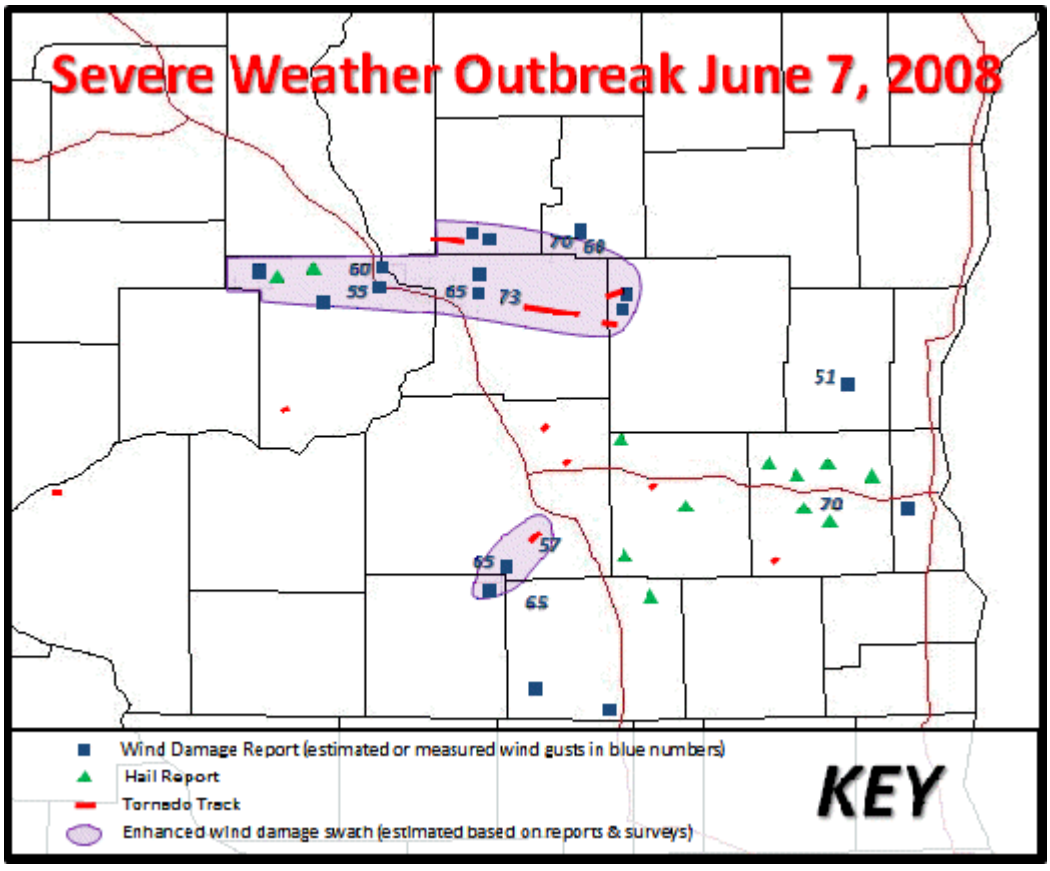


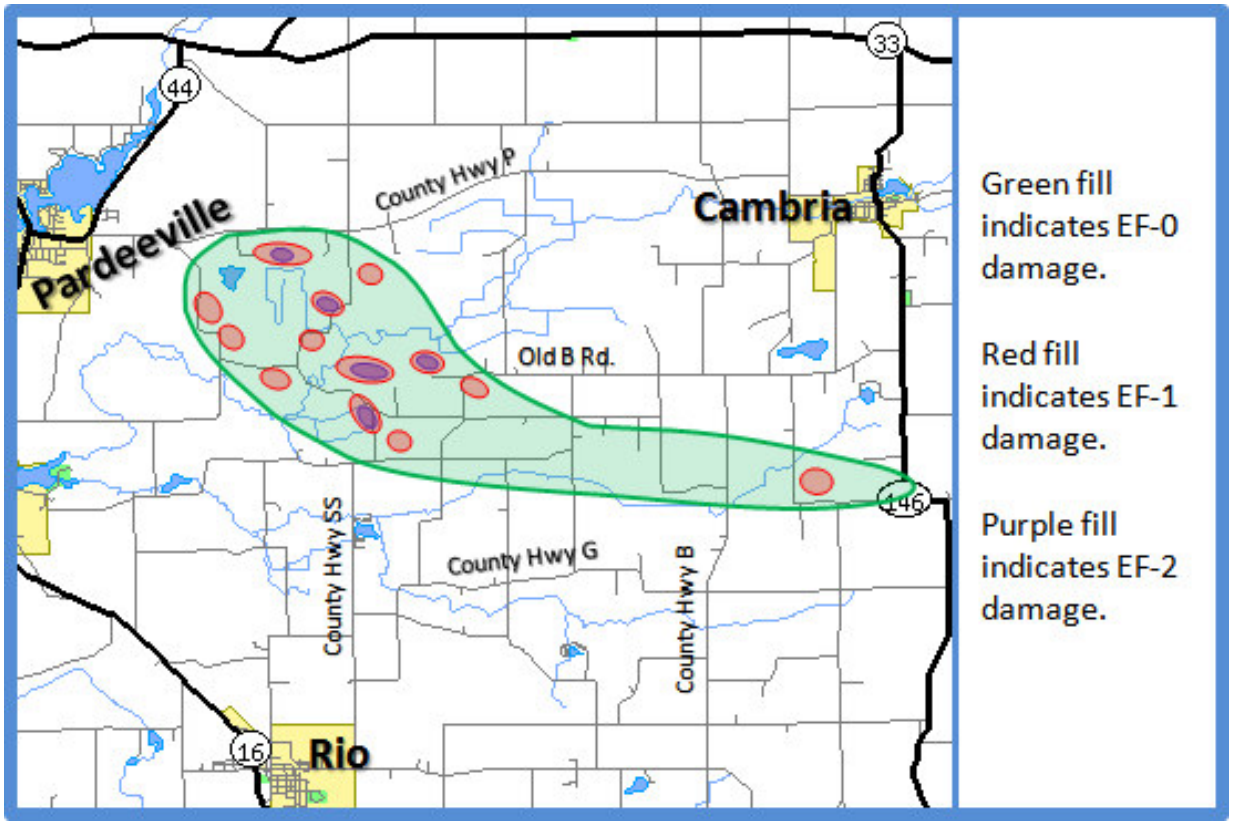
11.) June Tornadoes.

Twenty-two tornadoes occurred throughout Wisconsin in the month of June. Normally, Wisconsin averages about 21 tornadoes per year! Due to early warnings, there were no fatalities and only 5 injuries due to the 22 tornadoes. The strongest tornado in South-central Wisconsin was an EF2 twister in Columbia County that briefly was about 2 miles wide! In Southwest and West-central Wisconsin, there four tornadoes on June 7th and one on June 12th). The largest in that part of the state was an F1 in La Crosse Co. that damaged some farms and homes. All of the other June tornadoes spun up in either South-central or Southeast Wisconsin. Collectively, the estimated damage amounts due to the June tornadoes were $3,481,000 for homes and businesses, and $736,000 for crops.

12.) June 7th Severe Weather Outbreak Across Southern Wisconsin.

June 7th was a very active severe weather day that saw 13 tornadoes spin up, while many other thunderstorms generated either large hail up to 5 inches in diameter or damaging downburst winds of 55 to 73 mph. The 13 tornadoes made June 7th the sixth busiest tornado day in Wisconsin. The hailstone 5 inches in diameter fell about 2 miles east-northeast of Delafield in Waukesha County, and was the 3rd largest hailstone documented in Wisconsin's recorded history. There may have been some hail damage in Waukesha County, but it was never reported to the National Weather Service. See graphics and images below pertaining to June 7th.





(5” Hailstone, courtesy of Brent Dodge, 2ENE Delafield, Waukesha County)

13.) June 12th – Strongest Thunderstorm Winds in Wisconsin for 2008

On June 12th, several short lines of storms raced northeast through Southeast Wisconsin and generated powerful, hurricane-force, wind gusts. An estimated 90 mph gust in the East Troy area leveled many trees, power-lines, and an old silo. They also ripped part of barn's roof off, and two semi-tractors were blown over on Interstate-43.

14.) July 7th Severe Storms West-central Wisconsin.

Powerful thunderstorm winds gusting to 68 mph knocked down many trees in the La Crosse area.

15.) September 4th-5th and 13th-14th – Remnants of Two Hurricanes Dump Rain Over Southeast Wisconsin.

It's rare for southern Wisconsin to experience the remnants of hurricanes, let alone two hurricanes in one month! That's what happened in September of 2008! The remains of Hurricane Gustav dumped 1 to 3 inches of rain across southeast Wisconsin on the 4th and 5th, while the remnants of Hurricane Ike also dumped 1 to 3 inches of rain on the 13th and 14th! In both cases, the center of the low pressure moved northeast through southern Illinois and southern Indiana.

16.) Drought Conditions Return to Central and Northern Wisconsin.

Summer dryness across northern Wisconsin spread down in the Wood and Portage County area by late September, resulting in 9.3% of the state locked in severe drought conditions (D2). This drought continued into October. For the period of July through September, Marshfield in northern Wood County was 8.01 inches below normal for rainfall, and many other locations across northern and central Wisconsin were 4 to 7 inches below normal. By November 25th, drought conditions were noted north of a line from Prairie du Chien to Green Bay, with most of that area in the moderate drought category (D1).

17.) November 3rd - 6th Record Warm Temperatures.

Very warm air pushed into southern Wisconsin for three days in early November. Maximum readings peaked in the lower to mid 70s, and night-time lows dropped to only the lower 50s. These readings were about 20 degrees above normal. Many cities in southern Wisconsin established new daily record maximum temperatures as well as record high minimum temperatures.

18.) November, 2008 - Good Start to the Snow Season in Far Northern Wisconsin.

Three lake-effect winter storms affected Iron and Vilas Counties on the 6th-7th , 16th-17th and 20-21st. Snow amounts with each storm ranged from 6 to 11 inches.

19.) Record-setting Snow in December Across Central and Southern Wisconsin.

December 2008 turned out to be a repeat of December 2007, and in some cases even worse. Several winter storms dumped more than 6 inches of snow over at least some part of the state. Generally 30 to 50 inches feel during the month over the southern and eastern parts of the state. A number of locations established new December snowfall records and in some cases new records for any month. Keep in mind that this amount of snow is what normally falls during an entire winter season! A co-op site 1 mile southwest of Elkhart Lake (Sheboygan Co.) measured a whopping 58.6 inches of snow in December, 2008. A co-op site on the southwest side of Kewanee (Kewaunee Co.) came in with 53.1 inches. The NWS office at Green Bay totaled 49.6 inches, while the Milwaukee/Sullivan NWS office measured 44.5 inches. In Madison, 40.4 inches was deposited – which is both a new December record and a record for any month. Milwaukee came in with 35.3 inches.

The November 30th-Dec 1st storm 6 to 10 inches of snow over southeast and east-central Wisconsin. The December 8th-9th storm dumped 6 to 11 inches southeast of a line from La Crosse to Green Bay. A storm over far northwestern and north-central Wisconsin on December 13th-14th left behind 6 to 11 inches. The December 18th-19th storm deposited 6 to 14 inches southeast of a line from La Crosse to Green Bay. The December 20th-21st storm dumped 6 to 9 inches in scattered areas across the northern two-thirds of the state. There were several other weather systems that generated 1 to 5 inches of snow as well.

OTHER MISCELLANEOUS INFORMATION

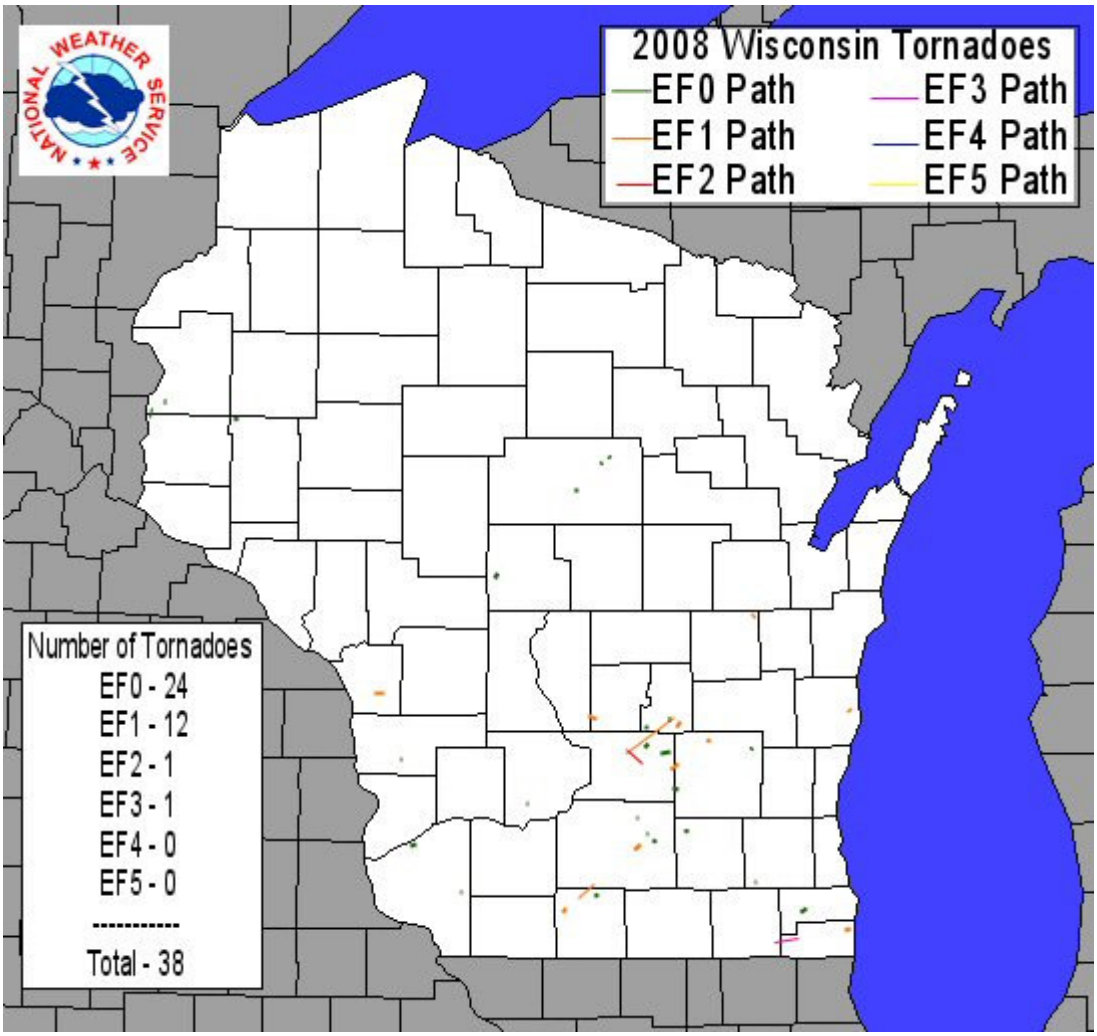
(NOT IN ORDER OF OCCURRENCE OR IMPORTANCE)

1.) **Late Spring Flooding.** Warming temperatures and spring rains in March, 2008, resulted in the usual minor to moderate flooding of bottomlands along and near the larger or main rivers in central and southern Wisconsin.

2.) **The greatest and least snowfall for 2007-08 Winter Season.** Hurley (Iron Co.) had the greatest amount of snow with 126.7 inches, while Whitehall (Trempealeau Co.) had the least with 32.0 inches.

3.) **2008 Wisconsin Tornado Season** – $22.77M for property damage and $737,000 for crop losses. Oddly, the year's strongest tornado occurred on January 7th when an EF3 (strong) tornado affected western Kenosha County. By December 1, 2008, 38 tornadoes were documented in Wisconsin in 2008, making 2008 the 3rd busiest tornado year in Wisconsin. Twenty four of them were rated as an EF0 (weak), and 12 were rated as EF1 (weak). One was rated as EF2 (strong) in Columbia County, which resulted in 5 injured people.

Below is an image showing the locations of all 38 tornadoes:



4.) Highest and Lowest Temperatures in Wisconsin - (-35F) at Necedah 2SE (Juneau Co.), and Ladysmith (Rusk Co.) on January 20th, and at Harrison (Lincoln Co.) on Jan 21st. The state's highest temperature was 96 at Holcombe (Chippewa Co.) on July 28th.

Milwaukee Mitchell Field failed to reach 90 degrees for the 2008 summer season. Their warmest day was 89 on September 2nd. Otherwise, Milwaukee Mitchell Field reached 88 degrees on 5 other days in August and July, 2008. In fact, September 2nd was a hot day over most of Wisconsin with maximum temperatures reaching the upper 80s to lower 90s, with some mid-90s in southeastern Wisconsin. Timmerman Field maxed out at 95 on September 2nd, along with the Janesville Airport and Richfield in Washington County.

5.) Wisconsin Weather-related Fatalities and Injuries – compared to previous years, 2008 was somewhat of a busy year in the weather-related fatality and injury department. Six people were directly killed by adverse weather, while a total 31 people were injured and required medical treatment. The tables below do not take into account fatalities and injuries due to vehicle accidents.

Here's the listing of 2008 weather-related fatalities:

Date	Weather Event	# of Fatalities	Gender	Location
Jan 19th	Extreme Cold/Wind Chill	1	Female	Douglas Co.
Jan 25th	Cold/Wind Chill	1	Female	Kenosha Co.
Jun 12th	Flash Flood	1	Male	Jefferson Co.
Jul 7th	Lightning	1	Male	Jefferson Co.
Dec 21st	Extreme Cold/Wind Chill	1	Male	Green Co.
Dec 21st	Extreme Cold/Wind Chill	1	Male	Sheboygan Co.

Here's the listing of 2008 weather-related injuries:

Date	Weather Event	# of Injuries	Gender	Location
Jan 7th	Tornado	15	(unknown)	Kenosha Co.
May 17th	Strong Wind	1	Male	Brown Co.
Jun 7th	Tornado	5	(unknown)	Columbia Co.
Jun 7th	Thunderstorm Wind	1	(unknown)	Columbia Co.
Jun 7th	Lightning	2	(unknown)	Juneau Co.
Jun 28th	Thunderstorm Wind	2	(unknown)	Ozaukee Co.
Jul 12th	Thunderstorm Wind	1	Male	Waupaca Co.
Aug 6th	Thunderstorm Wind	4	(unknown)	Trempealeau Co.

6.) No Heat Advisories or Excessive Heat Warnings Issued - due to the lack of truly hot and humid weather for at least a couple days, the 5 NWS offices that service Wisconsin didn't issue a Heat Advisory or Excessive Heat Warning. The last time we checked, there were no complaints.